

**UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS**

**SOLTA MEDICAL, INC.,**

**Plaintiffs,**

**V.**

**LUMENIS, INC., and LUMENIS, LTD.,**

**Defendants.**

**Case No. 19-cv-11600-DJC**

## MEMORANDUM AND ORDER

**CASPER, J.**

October 15, 2021

## I. Introduction

In this patent dispute, Plaintiff Solta Medical, Inc. (“Solta”) alleges that Defendants Lumenis, Inc. and Lumenis, Ltd. (collectively, “Lumenis”) infringe certain claims of United States Patents Nos. RE42,594 (“‘594 patent”) and RE43, 881 (“‘881 patent”) (collectively, the “Patents-In-Suit”). The parties now seek construction of six disputed claims terms. After claim construction briefing and a Markman hearing, the Court’s claim construction of the disputed terms follows.

## II. Patents-in-Suit

This lawsuit involves two patents related to laser skin treatment technologies. D. 1; D. 1-3; D. 1-4. Solta's '594 patent was filed on October 13, 2005 and issued on August 2, 2011. D. 1-

3 at 1. Solta’s ‘881 patent was filed on June 21, 2011 and issued on December 25, 2012. D. 1-4 at 1. The ‘881 patent is a continuation of the ‘594 patent and the Patents-In-Suit share a common specification. See id.; D. 58 at 7 n.1; D. 60 at 9.

### **III. Procedural History**

Solta instituted this action on July 24, 2019. D. 1. Lumenis asserted counterclaims against Solta, seeking a declaration of non-infringement for the Patents-In-Suit. D. 16; D. 36. After claim construction briefing, the Court held a Markman hearing and took the matter under advisement. D. 77.

### **IV. Standard of Review**

The construction of disputed claim terms is a question of law. Markman v. Westview Instruments, 517 U.S. 370, 372 (1996). For claim construction, a court must construe “the meaning that the term would have to a person of ordinary skill in the art in question at the time of . . . the effective filing date of the patent application.” Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005). To do so, the Court must look to “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” Id. at 1314 (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

#### **A. The Claims**

The analysis must begin with the language of the claim, which “define[s] the invention to which the patentee is entitled the right to exclude.” Id. at 1312 (citing Innova, 381 F.3d at 1115). “[T]he context in which a term is used in the asserted claim can be highly instructive.” Id. at 1314. Courts may find that the claim itself provides the means for construing the term where, for

example, the claim term is used consistently throughout the patent. Id. In that case, “the meaning of a term in one claim is likely the meaning of that same term in another.” Abbott GmbH & Co., KG v. Centocor Ortho Biotech, Inc., No. 09-11340-FDS, 2011 WL 948403, at \*3 (D. Mass. Mar. 15, 2011) (citing Phillips, 415 F.3d at 1314). Furthermore, “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” Phillips, 415 F.3d at 1315.

### **B. The Specification**

Nevertheless, the claims “do not stand alone” but “are part of a fully integrated written instrument, consisting principally of a specification,” which “is always highly relevant to the claim construction analysis.” Id. “Usually, [the specification] is dispositive; it is the single best guide to the meaning of a disputed term.” Id. (citing Vitronics Corp. v. Conception, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “[T]he scope and outer boundary of claims is set by the patentee’s description of his invention” and, therefore, “claims cannot be of broader scope than the invention that is set forth in the specification.” On Demand Mach. Corp. v. Ingram Indus., Inc., 442 F.3d 1331, 1338-40 (Fed. Cir. 2006); see Phillips, 415 F.3d at 1315–17, 1323. The Court must “us[e] the specification [only] to interpret the meaning of a claim,” and must be careful not to “import[ ] limitations from the specification into the claim.” Phillips, 415 F.3d at 1323. This standard may “be a difficult one to apply in practice,” id., but “[t]he construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” Id. at 1316 (citing Renishaw PLC v. Marposs Societa’ per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

**C. The Prosecution History**

After the claims themselves and the specification, “a court should also consider the patent’s prosecution history, if it is in evidence.” Id. at 1317 (quoting Markman, 52 F.3d at 980) (internal quotation mark omitted). “Like the specification, the prosecution history provides evidence of how the [United States Patent and Trademark Office] and the inventor understood the patent” and “can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” Id. (citing Vitronics, 90 F.3d at 1582–83). The prosecution history should be given less weight than the claims and the specification, however, because “it often lacks [] clarity . . . and thus is less useful for claim construction purposes.” Id.

**D. Extrinsic Evidence**

Courts may also consider extrinsic sources, which “can help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean.” Id. at 1319. In particular, “dictionaries and treatises can be useful in claim construction” as they may assist the court in understanding the underlying technology and “can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention.” Id. at 1318. “[W]hile extrinsic evidence can shed useful light on the relevant art,” however, “it is less significant than the intrinsic record in determining the legally operative meaning of claim language.” Id. at 1317 (citations and internal quotation marks omitted). In general, extrinsic evidence is viewed “as less reliable than the patent and its prosecution history in determining how to read claim terms.” Id. at 1318. Therefore, extrinsic

evidence is “unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” Id. at 1319.

**E. Indefiniteness**

A patent claim is invalid for indefiniteness if its claims, when read in light of the specification and the prosecution history, “fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 901 (2014). “The definiteness requirement must take into account the inherent limitations of language, but at the same time, the patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them.” Fairfield Indus., Inc. v. Wireless Seismic, Inc., No. 4:14-CV-2972, 2015 WL 1034275, at \*4 (S.D. Tex. Mar. 10, 2015) (quoting Nautilus, 572 U.S. at 909–910). Patents are presumed to be valid, 35 U.S.C. § 282, and indefiniteness must be proved by the more demanding standard of clear and convincing evidence. Microsoft Corp. v. i4i Ltd. P’ship, 564 U.S. 91, 95 (2011).

## V. Construction of Disputed Claims

The parties dispute the meaning of the following six terms and the Court resolves these disputes as discussed below:<sup>1</sup>

### A. “Converting the Laser Light From a Beam to [an] Irradiation Pattern”

Term	Solta’s Proposed Construction	Lumenis’ Proposed Construction	Court’s Construction
converting the laser light from a beam to an irradiation pattern  ‘594: 29-30, 45, 47 ‘881: 29-30, 64, 66	using one or more beams from the generated laser light to create an exposure pattern, or changing the form or function of the generated laser light to create an exposure pattern	The term is indefinite. In the alternative, the term means: splitting the laser beam to passively produce illuminated areas separated by unilluminated areas	changing the form or function of a laser beam to an irradiation pattern

As to “converting,” the parties agree that the ordinary meaning of the term is “changing the form or function.” See D. 87 at 13:24-25; D. 66 at 14. The remaining dispute is over the scope of that term as used in the Patents-In-Suit.

Solta urges the Court to adopt its proposed construction because the independent claim includes using laser beams to generate an irradiation pattern that is not limited to a specific method of generating such pattern, D. 58 at 12 (citing ‘594 cl. 29), while dependent claims are directed to a specific method of generating the irradiation pattern. Id. (citing ‘594 cl. 30, 47). Solta notes that a person of ordinary skill in the art (“POSITA”) would have understood the independent claim to “broadly encompass” the multiple methods of converting described in the dependent claims and

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<sup>1</sup> The parties initially disputed the construction of “Er:Glass laser” but have since agreed to adopt Solta’s proposed construction of the term: “a laser having erbium-doped crystal or glass as the gain medium.” D. 75 at 1; D. 78 at 3. Additionally, the parties filed an amended joint claim construction statement after the Markman hearing, reflecting certain changes to their proposed constructions. See D. 78. The Court refers to these proposed constructions below.

understood the dependent claims all to involve “one or more beams of the generated laser light.” Id. at 12–13. Lumenis supports its proposed construction by asserting that “the only relevant embodiment,” masking, “describes the use of passive beam splitting, such as through use of a mask, to produce an irradiation pattern in which the uncovered areas are irradiated by the laser and the masked areas are not.” D. 60 at 17.

While the masking method involves a passive optical element to change the intensity distribution and shape of the light (i.e., from a “single whole beam into multiple smaller portions”), see D. 61 ¶ 62 (Grove Decl.); D. 59 ¶ 48 (Viator Decl.), masking is only one method of converting a laser beam described in the patent, see D. 59 ¶ 51 (describing pulsing as used in ‘594 patent as “method of patterning to . . . actively control the laser pulse/scan of the beam to apply a pattern to the skin tissue”); D. 61 ¶¶ 55–57 (describing pulsing/scanning as active). For these reasons, the Court also rejects Lumenis’ argument that the term is indefinite, see D. 60 at 15, as the parties agree on the ordinary meaning of “converting,” see D. 61 ¶¶ 76–77; D. 66 at 14 n. 4, and the Patents-In-Suit indeed describe the methods of “converting” for each claim. D. 1-3 at 24 (describing method in cl. 29 as masking, describing method in cl. 45 as pulsing/scanning); see D. 59 ¶ 42 (describing methods and referring to commonly used encyclopedia providing definitions for same).

Accordingly, the Court construes the term “converting the laser light from a beam to an irradiation pattern” as “changing the form or function of a laser beam to an irradiation pattern.”

**B. “A Portion of the Laser Light”**

<b>Term</b>	<b>Solta’s Proposed Construction</b>	<b>Lumenis’ Proposed Construction</b>	<b>Court’s Construction</b>
“a portion of the laser light” ‘594: 29 ‘881: 29	a part of the generated laser light	a fraction of the generated laser light beam	a part of the generated laser light

As indicated at the Markman hearing, D. 87 at 40, the parties agree that the ordinary meaning of “a portion” is a part of a whole. D. 87 at 40:6-8, 43:15-16; D. 78 at 2. The remaining dispute is thus over Lumenis’ proposed construction, where they argue that, since the relevant claim later refers to the “masking” embodiment as its preferred method, each “portion” of the laser beam “is a different fraction” of the same laser light beam. D. 60 at 18. The Court construes the term as “a part of the generated laser light,” as such construction comports with the agreed-upon plain and ordinary meaning of the term portion. Moreover, nothing in the intrinsic record supports swapping the word portion with fraction, see D. 1-3; D. 1-4, which would in turn need to be construed, and of which Lumenis does not provide a plain and ordinary meaning. See D. 60. The Court also declines to add “beam” in construing the term. As discussed above, the preceding claim language refers to converting the laser light from a beam to an irradiation pattern, indicating that laser light and laser beam have different meanings. See D. 61 ¶ 62 (describing masking embodiment as changing “single whole beam into multiple smaller portions”).



**C. “Substantially Simultaneously”**

<b>Term</b>	<b>Solta’s Proposed Construction</b>	<b>Lumenis’ Proposed Construction</b>	<b>Court’s Construction</b>
“substantially simultaneously” ‘594: 29, 45	at the same time or approximately at the same time, or substantially simultaneously	The term is indefinite. In the alternative, the term means: at the same time	No further construction needed

Here, the parties agree that the ordinary meaning of simultaneously is “at the same time,” D. 78 at 2, but dispute the use of “substantially” to modify it. Solta argues that using the term “substantially” results in a broader temporal relationship, which refers to the two relevant methods of converting, masking (where irradiation occurs “at the same time”) and pulse/scanning (where irradiation depends on the pulse rate of the laser). D. 58 at 15–16. Lumenis argues that the qualifier “substantially” is indefinite because there is no objective standard within the patent to discern between what is “substantially” simultaneous and what is not. D. 60 at 19–20. In the alternative, Lumenis offers its proposed construction, which it contends “requires the overlap in time dictated by the ordinary meaning of simultaneously.” *Id.*

As an initial matter, courts do not construe the term “substantially” to be “inherently indefinite.” *Vifor (Int’l) AG v. Mylan Lab’ys Ltd.*, No. 19-cv-13955 (FLW), 2021 WL 2652123, at \*10 (D.N.J. June 28, 2021) (citations omitted). For example, using substantially can “accommodate the minor variations that may be appropriate to secure the invention.” *Id.* (citing *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1120 (Fed. Cir. 2002)). Used, as here, as “a word of degree,” the Court must “determine whether the patent provides some standard for measuring that degree.” *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010) (quotations omitted). Here, the claim language and the specification provide some standard for measuring that degree. *See* D. 1-3 at 24, cl. 48; *id.* at 20 (describing “laser producing 25 Joule 2

ms pulses at a wavelength of 1.54 microns and at pulse rates of 1 Hz or 0.5Hz”); *id.* at 21 tbls. 1–3 (providing repetition rate of laser). Such functional limitations (i.e., pulse rate range) provide objective guidance. *See IMPINJ, INC., v. NXP USA, INC.*, No. 4:19-CV-3161-YGR, 2021 WL 4221659, at \*3–4 (N.D. Cal. Sept. 16, 2021). Accordingly, the Court does not conclude that the term “substantially” is indefinite.

In light of this conclusion, and the reasons articulated for same, the Court need not further construe the term.

**D. “Cooling”**

<b>Term</b>	<b>Solta’s Proposed Construction</b>	<b>Lumenis’ Proposed Construction</b>	<b>Court’s construction</b>
“cooling” ‘594: 31-33, 45 ‘881: 31-33, 41-42, 64	Reducing or controlling temperature	reducing temperature with cryogenic fluid	reducing temperature with cryogenic fluid

As to “cooling,” the parties agree that the ordinary definition of cooling includes reducing temperature. *See* D. 58 at 17; D. 87 at 63:2–3. Solta argues that cooling also includes controlling temperature, and that cooling is not limited to cooling with cryogenic fluids. D. 58 at 21–23. Lumenis points to references in the Patents’ claims and specification referring specifically to cooling with cryogenic fluid. D. 60 at 22.

As to “controlling,” the Court declines to include it. Such term is used differently throughout the claims. For example, the ‘881 patent describes “using the measured temperature to control an amount of cooling applied to the transparent material,” but not with reference to controlling the temperature itself. *See* D. 1-4 at 24, cl. 41. To the extent cooling refers to the skin tissue itself, *see* D. 1-4 at 24, cl. 33, the specification distinguishes between cooling (i.e., reducing temperature), and controlling temperature, when it explains that “[t]he cooling is coordinated with

the application of the laser beam so as to control the temperatures of all affected layers of tissues.”  
See D. 1-3 at 19.

As to cryogenic fluid, the Court includes it. First, the specification states that the cooling devices employ cryogenic fluid as a means of cooling the physical embodiment itself (i.e., cooling rod or plate), and the claims begin by stating that the cooling elements employ a cryogenic container and cryogen (or fluid). See D. 1-3 at 19–20, 22, 23–24. Moreover, a description of the invention background admits that non-cryogenic cooling was “typical . . . of the prior art,” indicating that this invention disclaimed other previously used cooling methods, like ice water. D. 1-4 at 19. Furthermore, the prosecution history contains the inventors’ assertions that “the most important feature of Applicants’ invention” was “the cryogenic cooling means for cooling a surface of a cooling element, which in turn cools the tissue surface.” D. 60-21 at 2; D. 60-19 at 8–9; see D. 60-33 at 1 (stating that application of original patent was first instance where inventor “suggested use of cryogenic cooling to cool a surface area of a transparent high thermal conductivity cooling element for laser tissue treatment”). Taken together, the Patents-In-Suit disavow other cooling methods. See On Demand Mach. Corp., 442 F.3d at 1340 (quoting Astrazeneca AB v. Mut. Pharm. Co., 384 F.3d 1333, 1339–40 (Fed. Cir. 2004) (explaining that “[w]here the general summary or description of the invention describes a feature of the invention,” and “criticizes other products . . . that lack that same feature, this operates as a clear disavowal of these other products”)). Although in the reissue application for the Patents, the inventors urge that cryogenic cooling is “optional,” and seek to “broaden the scope of the claims to more fully encompass [what was] disclosed in the specification,” D. 59-2 at 41, 44, the language of the claims and the specification remains unchanged.

Accordingly, the Court construes “cooling” as “reducing temperature with cryogenic fluid.”

**E. “Transparent Material”**

<b>Term</b>	<b>Solta’s Proposed Construction</b>	<b>Lumenis’ Proposed Construction</b>	<b>Court’s construction</b>
“transparent material” ‘594: 29, 31-34, 36, 45, 48 ‘881: 29, 31-34, 37, 41, 64, 67	a material that allows light to pass through without appreciable scattering	The term is indefinite	material that allows the laser beam to pass through

Here, Solta argues that claims do not limit the type of light to which the material is transparent. D. 58 at 18–19. Lumenis argues that the term is indefinite, as transparent is a term of degree with no objective standard. D. 60 at 25; D. 78 at 3.

As a preliminary matter, transparent is not indefinite. Confusion over the term occurs when multiple light sources are used. See D. 61 ¶ 95 (explaining ambiguity comes from “whether the material must be transparent to all wavelengths, to those wavelengths spanning from the ultraviolet to the infrared regions of the optical spectrum, or those the wavelengths of only a portion of the optical spectrum”). But here, the specification provides the wavelengths (or range of same) of each embodiment. See, e.g., D. 1-3 at 20:4:33-35, 21:5:42, 21:6:38, 24 cl. 41.

As to the plain and ordinary meaning of “transparent,” the parties do not appear to dispute that it means transmitting light without appreciable scattering or absorption. See D. 87 at 77:13-17, 83:9-10; D. 61 ¶ 96, 101. In other words, the material allows light to pass through. See id.

Finally, the Court concludes that “transparent material” is limited to the laser beam. The summary of the invention states that “[t]he present invention provides a laser treatment device [that] contains a cooling element with high heat conduction properties, which is transparent to the

laser beam.” D. 1-3 at 19:2:3-6. The specification similarly and explicitly provides for material transparent to the laser beam. See D. 1-3 at 22:7:36. Moreover, as the device’s operative light source is a laser beam, the claims should not be read to broadly include other sources of light not used in the invention. See On Demand Mach. Corp., 442 F.3d at 1340 (citing Phillips, 415 F.3d at 1321).

Accordingly, the Court construes “transparent material” as “material that allows the laser beam to pass through.”

**F. “Approximately 1.54  $\mu\text{m}$ ”**

<b>Term</b>	<b>Solta’s Proposed Construction</b>	<b>Lumenis’ Proposed Construction</b>	<b>Court’s construction</b>
“approximately 1.54 $\mu\text{m}$ ”  ‘594: 41, 45 ‘881: 46, 54	approximately 1.54 $\mu\text{m}$	The term is indefinite	No further construction needed

Here, Lumenis contends that “approximately 1.54  $\mu\text{m}$ ” is indefinite because “approximately” is a “subjective term of degree” and the patents do not provide an objective standard for what would be considered “approximately” 1.54 and what would not. D. 60 at 28. Solta argues that a POSITA would have understood that such wavelength is “typically found in Er:Glass lasers and is one of many wavelengths primarily absorbed in water.” D. 58 at 19 (citing D. 1-3 at 20:5:1-3).

As discussed above, approximately, like other “descriptive terms [are] commonly used in patent claims to avoid a strict numerical boundary to the specified parameter.” Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1310–11 (Fed. Cir. 2003) (citations and quotations omitted); see Unigene Lab’ys, Inc. v. Apotex Inc., No. 06-cv-5571 (RPP), 2008 WL

3992294, at \*8 (S.D.N.Y. Aug. 28, 2008) (noting ordinary meaning of approximate and not construing the term further). Here, as Lumenis' expert explains, "to a POSITA . . . a wavelength of 1.54  $\mu\text{m}$  indicates an Er:Glass laser." D. 61 ¶ 106; see D. 59 ¶ 96 (explaining that a "wavelength of 1.54  $\mu\text{m}$  is a characteristic Er:Glass wavelength"). The claims and specification provide for such laser in the range of 1.54  $\mu\text{m}$ , where "[l]ight in this range has minimal scattering losses in the skin tissue and is readily absorbed in the skin fluids." D. 59 ¶ 98 (quoting D. 1-3 at 20:5:1-3). Thus, "approximately" is functionally defined by permissible scattering and absorption, which "will not result in radical changes in therapeutic effect." Id.

Accordingly, the term "approximately" is not indefinite, and the Court need not construe it further.

## **VI. Conclusion**

For the foregoing reasons, the disputed claim terms are construed as follows:

1. "changing the form or function of a laser beam to an irradiation pattern"
2. "a part of the generated laser light"
3. No further construction needed
4. "reducing temperature with cryogenic fluid"
5. "material that allows the laser beam to pass through"
6. No further construction needed.

**So Ordered.**

/s/ Denise J. Casper  
United States District Judge